

The Influence of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) on Behavioural Intention to Use E-Wallet Applications in Bandung

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Abstract

The rapid rise of financial technology (fintech) in Indonesia has been mostly due to the use of digital payment methods, with e-wallets becoming the most popular platform. Even if this growth has happened, problems including uneven financial knowledge, restricted internet access, and a wide range of demographic traits still affect how many people utilize it. This study employs the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) to analyse the elements influencing behavioural intention to utilize e-wallet applications, hence enhancing comprehension of these dynamics. The model integrates essential constructs such as performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit, while also including the moderating effects of age, gender, and experience. We used Smart PLS to look at the data and see if there were any direct or moderating effects. The findings demonstrate that hedonic motivation, facilitating conditions, and performance expectancy substantially affect behavioural intention, with hedonic motivation identified as the most potent predictor. These findings underscore that, in addition to practical utility, enjoyment and happiness are crucial factors influencing e-wallet usage. Moreover, moderation analysis indicates that age strongly influences two relationships: habit negatively and hedonic motivation positively, implying that older users are less shifted by habitual behaviour yet more driven by enjoyment. Conversely, gender and experience exhibited no notable moderating effects. This research enhances the literature by affirming UTAUT2 within the framework of e-wallet uptake in Indonesia and by elucidating the pivotal influence of experiential elements on user intention. The findings furnish e-wallet providers and policymakers with insights to formulate policies that prioritize both usability and user satisfaction, while also considering demographic variations in adoption trends.

Introduction

The current technological development cannot be separated from human life, one of which is the development of financial technology (Fintech). Fintech can be defined as an umbrella of technological innovation in finance related to the method of delivery and use of financial services (Chiu & Deipenbrock, 2023). This makes fintech widely used to help companies, business owners, and consumers better manage their financial operations, processes, and lives by utilizing the internet and specialized software (Zeidy, 2022).

Fintech in Indonesia has grown rapidly in terms of prospects and also the number of users in the last 10 years (Zheng, 2021), in line with the government's (Bank Indonesia) program in 2014 regarding GNNT (Gerakan Nasional Non-Tunai) which affects many sectors, both macro and micro (the people in them) (Wasiaturrahma et al., 2019), the impact of the pandemic, and the many opportunities are seen from the data on the behaviour patterns of Indonesians themselves (BRI, 2025).

In Indonesia, the most business providers or start-ups are types of lending or loans with a total of 172 (BI, 2019), followed by the type of payment or payment with a total of 73 (Fintechnews, 2020). This is also supported by Fintech type Payment 2 Lending which has affected 88% of economic growth in Indonesia (Maulana et al., 2022). Despite the number, there are differences in the trend of fintech use in Indonesia.

Fintech payment in this case in the form of digital payment is an electronic or digital service to store payment instrument data as a means of payment by using cards or electronic money to accommodate funds or make payments (BI, 2019). There are various types of digital payments (e-wallets), electronic money, QRIS, Payment Gateway, and Digital Bank) (Finantier, 2021), However, e-wallets dominate fintech digital payments in terms of their development and growth. Figure 1 illustrates forecast e-wallet used in Indonesia.

E-wallets are one of the great potentials in improving the Indonesian economy. However, in fact, there are still many challenges that have the potential to cause problems, such as external factors of fintech itself (business competition, shadow banking, system risk, data protection, cyber risk) and also internal factors of individuals (financial literacy that is still uneven, the age of e-wallet users is limited, there are still many individuals who cannot access the internet or smartphones) (Marlina et al., 2020; Wasiaturrahma et al., 2019).

The rapid development of e-wallets as a form of fintech payment in Indonesia necessitates a deeper understanding of the factors influencing users' behavioral intentions in using them. One of the most widely used theoretical frameworks to explain technology acceptance is the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012). It is important to link the UTAUT2 framework to the context of e-wallet use in Indonesia because it can help explain the dynamics of adopting digital financial technology that are affected by infrastructure conditions, literacy, and consumer behavior preferences.

Based on this framework, this study seeks to answer the main question: which factors of the UTAUT2 construct have a significant effect on the behavioral intention of e-wallet use in Indonesia? This study also examines whether moderating factors, such as age, gender, and experience, can enhance or diminish the influence of the UTAUT2 construct on behavioral intentions. This question is important because it can provide a theoretical contribution to the development of technology adoption models, as well as provide practical advice for e-wallet service providers in designing strategies that suit the needs of users in various demographic segments.

The structure of this research is divided into several main sections. Chapter 2 is a theoretical study that examines literature related to fintech, e-wallets, and the UTAUT2 model, followed by the development of hypotheses. Chapter 3 explains the research methodology used, such as the research design, measurement model, demographic profile and analysis techniques. Chapter 4 presents the research findings, including direct path analysis and moderation tests, while Chap. 5 discusses the research results, theoretical and practical implications, limitations of the study, and future directions for research development. Consequently, the research framework offers a comprehensive overview, from theoretical foundations to empirical results, serving as a reference for both academic and practical purposes.

Theoretical and Hypothesis Development

Technology Acceptance Model is defined as an information systems theory that models how individuals or users receive and use technology (Davis, 1989). Individuals who use a technological system are actually the main goal of the individual process, because previously there must be a behavioral intention which is a factor to direct individuals to use technology. The UTAUT 2 model describes how consumer acceptance behavior regarding technology-based services. UTAUT can explain the 70% variance in consumer interest in the use of technology. This value is higher when compared to the previous eight models. Based on the explanation above and the results of research from Venkatesh et al., (2012), it is stated that performance expectancy, effort expectancy, social influence, hedonic motivation, and price value are proven to be able to influence the behavioral use of technology users through behavioral intention. This study limited the research to behavioral intention in accordance with several previous studies that also examined how consumers accept a technological service (Amnas et al., 2023; Bajunaied et al., 2023; Idrees & Ullah, 2024; Medeiros et al., 2022).

Previous research has shown that performance expectancy is a very strong predictor of behavioral intention, especially in digital payment technology. Studies that examined mobile-based payment services (Dang et al., 2024; Hameed et al., 2024; Rabaa'i, 2023), (Abdul-Halim et al., 2022; Zaid Kilani et al., 2023), and services (Amnas et al., 2023; Mensah & Khan, 2024; X. Yang et al., 2023) found empirical evidence that expectations of the benefits and

performance of these technologies have a significant positive influence on behavioral intention. Research from Hewavitharana et al., (2021), Alkhowaiter, (2022), Wu et al., (2022) and Islam et al., (2024) confirms a positive relationship between performance expectancy and behavioral intention. According to research by Alalwan et al., (2017) the perception of usability, for example ease of transactions and time efficiency, will be proven to encourage the adoption of this technology. Thus, understanding performance expectations is key in analyzing the behavior of e-wallet users (Mustafa et al., 2022). From this literature, the hypothesis is developed as follows:

H1. Performance expectancy was significantly toward behavioral intention e-wallet adoption.

Venkatesh et al., (2003) define effort expectancy as the extent to which individuals expect that the use of a system will be easy and does not require a large effort. This means that the easier the technology is to use, the higher the likelihood that someone will use it. Venkatesh et al. (2000) emphasize that in this phase, the perception of ease of use greatly influences user decisions. Orlikowski, (1992) even stated that failure to pay attention to the aspect of ease of use in system design can limit the success of technology implementation. This perception includes the belief that learning how a digital wallet works is not difficult, that users will feel comfortable and quickly get used to it, and that the interaction within the app will feel natural and not confusing.

Esawe (2022) explained that if users feel that the application interface is easy to understand, then their level of comfort in using e-wallets will increase. Other literature related to digital payments (Edu, 2024; Maulana et al., 2022; Visconti-Caparrós & Campos-Blázquez, 2022), e-wallets (Abdul-Halim et al., 2022; Esawe, 2022; Zaid Kilani et al., 2023), and FinTech (Bajunaied et al., 2023; Lee & Shin, 2018; Maulana et al., 2022; Zeidy, 2022) showed varying results related to the effect of effort expectancy on behavioral intention. Some studies found significant positive influences, while others showed non-dominant influences. In addition, the Generation Z group, which is the dominant user of digital services, has high expectations for ease of use (user experience) (Herzallah et al., 2025; Muchardie et al., 2021). They are used to fast, practical, and minimally invasive technology. If an e-wallet is able to offer an easy-to-understand interface, a simple registration process, and clear navigation, then the perception of effort expectancy will increase. From this literature, the hypothesis is developed as follows:

H2. Effort expectancy was significantly toward behavioral intention e-wallet adoption.

Venkatesh et al., (2003) explain that social influence is the perception that people who are considered important have the view that the individual should use a new system. Social pressures or social expectations play a significant role in encouraging individuals to adapt their behavior to prevailing social norms. Furthermore, social norms and image perceptions are also reflected in consumer behavior intentions. Maryam et al., (2022) revealed that consumer expectations are greatly influenced by how they perceive a brand. This expectation is not only determined by the objective quality of the technology, but also by how it is perceived in the social context. According to Lassoued & Hobbs, (2015), consumer expectations are largely influenced by how a brand fulfills the promises it makes. Meanwhile, the immediate social environment provides pressures that help shape consumer expectations and decisions (Gao et al., 2020).

The selection of Social Influence as a key determinant of behavioral intention is based on previous literature that supports the important role of social influence in encouraging users to adopt technology-based services. Studies such as Alalwan et al. (2016), Chresentia & Suharto (2020). Kardoyo et al., (2023) have found that recommendations and opinions from people who are considered important can influence a person's decision to use technological channels such as online banking. The influence of Social Influence is increasingly visible in the younger generation, especially Gen Z, who are very active on social media. Recommendations from peers, digital community trends, and

the influence of public figures or influencers can be significant factors in shaping their intention to use e-wallets (Herzallah et al., 2025). From this literature, the hypothesis is developed as follows:

H3. Social Influence was significantly toward behavioral intention e-wallet adoption.

According to Venkatesh et al., (2012), the concept of Facilitating conditions refers to the extent to which one believes that there is adequate technical and organizational support to enable the use of a particular technological system. Such support includes the availability of hardware and software, access to instructions for use, and assistance from other individuals in the user's social environment. Facilitating conditions can be understood as consumer perception of the existence of adequate infrastructure to use e-wallets or digital wallets (Pal et al., 2018; Salimon, Mokthar, et al., 2017). Several previous studies (Esawe, 2022; Kumar et al., 2025) show that facilitating conditions have a significant relationship with behavioral intent.

Consumers tend to show higher intentions to use a technology if they feel that the environment around them supports its use (Chresentia & Suharto, 2020). This support can come from friends, family, or institutions that provide education and technical facilities. The use of *online banking* channels and digital financial services generally requires certain skills, access to resources, and adequate technical infrastructure, so the existence of *facilitating conditions* is crucial (Asif & Sarwar, 2025; Jena, 2023; Kaur & Arora, 2023; Salem & Rassouli, 2025; Sánchez-Torres et al., 2018). Users will be more motivated to adopt *e-wallets* when they feel the support of the service, compatibility with the technology already used, and the reliability of the system (Abdul-Halim et al., 2022; Ajina et al., 2023; Herzallah et al., 2025; W. A. Khan & Abideen, 2023; Zaid Kilani et al., 2023). Consistency of technical support and cross-device compatibility are also seen as important determinants in reducing barriers to use and improving the smooth user experience (Esawe, 2022; Ly et al., 2022; Truc, 2024; X. Yang et al., 2023). In addition Nguyen & Dao (2024), the existence of an accessible guide also plays an important role in creating a positive user experience (Gupta et al., 2023). From this literature, the hypothesis is developed as follows:

H4. Facilitating conditions was significantly toward behavioral intention e-wallet adoption.

In the development of the UTAUT model to the UTAUT2 version, hedonic motivation was included as one of the new variables that aimed to expand the scope of the model, especially in the use of technology by consumers. Venkatesh et al., (2012) define Hedonic motivation as pleasure that comes from the use of technology. The addition of hedonic motivation to the UTAUT2 model is considered a very important theoretical contribution because it integrates affective elements into a previously cognitive-dominant framework (Kardoyo et al., 2023; I. U. Khan et al., 2022). The focus of research has shifted from simply evaluating performance expectancy to a more emotional and intrinsic dimension, especially for consumers who adopt technology for reasons other than productivity (Anastasia et al., 2024; Nguyen et al., 2020).

Research by Baptista & Oliveira, (2015) corroborates that the higher the entertainment value offered by technology-based services, the more likely it is that the technology will be accepted by users. Furthermore, Samsudeen et al., (2022) found that digital services such as mobile banking tend to be more accepted when they offer entertainment elements or fun interactive experiences. Previous research has shown that mobile banking not only functions as a transaction tool, but is also seen as a modern and interesting technological innovation for users who are motivated to explore new things (Rabaa'i, 2023; Sukaris et al., 2021). From this literature, the hypothesis is developed as follows:

H5. Hedonic motivation was significantly toward behavioral intention e-wallet adoption.

The independent variable that is extended in the UTAUT2 model is the price value. Venkatesh et al., (2012) define price value as the user's perception of the cost-effectiveness of using a technology. One important difference between the use of technology by consumers and organizations is who bears the costs. From an organizational point of view, it is usually the company that bears the cost of using technology, such as software or employee training. However, from the consumer's point of view, the cost of use is borne by the user himself. Thus, consumers' perception of cost greatly influences their decision to adopt a technology (Venkatesh et al., 2012).

In digital financial services such as e-wallets, utilitarian value is the main aspect of perceived value. This utilitarian value has to do with the functional effectiveness or performance obtained by the user, such as ease of payment, transaction speed, and time efficiency (Karjaluoto et al., 2020). The perceived value can also be affected by promotions and discounts offered by service providers. Balakrishnan & Eesan, (2024) emphasized that increased efficiency in the payment process and the existence of attractive price quotes can increase the value perceived by customers. They combined coping theory and found that perceived value is the main determinant of intention to use mobile payment services. A study by Singh et al., (2020) shows that lack of awareness of value and absence of a strong perception of value are major barriers to the adoption of mobile payment systems in their countries. From this literature, the hypothesis is developed as follows:

H6. Price value was significantly toward behavioral intention e-wallet adoption.

Venkatesh et al., (2012) stated that habit is defined as the extent to which the use of a technology has become habitual behavior that is carried out automatically by individuals. Habits are formed through repeated user experiences, where a person starts to carry out an action without much thought because it is already internalized automatically. Alalwan et al., (2017) emphasized that *habit* reflects a person's tendency to perform a behavior automatically because it has been formed from knowledge and experience accumulated over time. This is supported by Hussain et al., (2019) who stated that when a person learns to use something automatically, the behavior will develop into an inherent habit.

In mobile banking or e-wallets, the user's first experience is very decisive in the formation of habits. Hussain et al., (2019) stated that customers learn to use M-banking services through their initial experience, and from that experience then develop into a sustainable habit. Esawe (2022) found that the adoption of contactless payments arose due to the need to maintain physical distancing, while the research of Moti & Walia, (2020) highlights that the adoption of *m-payments* varies by country and context, so habit factors are important to analyze in depth. In a number of other digital service studies, *habits* have also been found to be a determining factor in the adoption of new technologies. For example, Slade et al., (2015), Sharif & Raza, (2017), Hussain et al., (2019), Khan, (2022), and Amnas et al., (2023) identified that habits are an important factor in shaping a person's readiness and willingness to accept and use a new platform. Limayem et al., (2007), Sharif & Raza, (2017), Amoroso, (2018), and Jeyaraj, (2022) reveal that constant interaction with digital payment platforms reinforces users' habit and encourages them to use the service spontaneously without lengthy rational considerations. From this literature, the hypothesis is developed as follows:

H7. Habit was significantly toward behavioral intention e-wallet adoption.

Venkatesh et al., (2012) determined that age, gender, and experience play a role as moderation variables in the UTAUT2 framework, strengthening or weakening the relationship between independent variables and behavioral intention. UTAUT2 places age, gender, and experience as moderators because demographic characteristics and maturity of use have been shown to alter the way individuals perceive, evaluate, and respond to technology (Tamilmani et al., 2021). The combination of moderation shows a hierarchical pattern, in the early stages of adoption,

experience plays the most dominant role as a moderator because the structure of knowledge is unstable; over time, habit and performance expectancy take over as determinants of actual behavior, while social influence and effort expectancy fades, and gender–age sensitivity moves with the support needs, risk perceptions, and cognitive strategies used (Çalışkan et al., 2025; Industry, 2025; K. J. Islam & Picault, 2025; Kumar et al., 2025; Marak et al., 2025; Pal et al., 2025; Phuong, 2025). From this literature, the hypothesis is developed as follows:

H8. Age, gender, and experience significantly moderate the relationship between UTAUT2 constructs and e-wallet adoption.

Method

This research employs a non-experimental design utilizing an explanatory studies framework, wherein data collection is conducted via questionnaires and incorporates with a cross-sectional temporal orientation. We used SmartPLS 4.0 software to do a Structural Equation Modelling (SEM) analysis based on Partial Least Square (PLS). The analysis process adheres to the SEM-PLS methodology outlined by Hair et al. (2019) in Section 4.

Measurement Model

This study uses a measurement model that adopts the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework developed by Venkatesh et al., (2012). All indicators in this study were adjusted into Indonesian so that they were easy to understand by respondents and modified to be relevant to the context of e-wallet use in Indonesia. This adjustment includes the use of commonly used terms and phrases in the use of digital wallet applications can be seen in Appendix A. All items were measured using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to more accurately capture respondents' perceptions, attitudes, and intentions towards e-wallet uses.

Demographic Profile

The sample in this study consisted of 409 respondents who were residents of the city of Bandung, as evidenced by the ownership of the Bandung City ID card. All respondents are active users of e-wallets and have been actively using the application for at least three months. The determination of the number of samples was carried out using the Maximum Likelihood Estimation (MLE) approach, which relies on survey data in determining the optimal sample size (Chambers et al., 2012). The demographic profile of the respondents can be seen in Table 1.

Table 1. Demographic Profile. Source: Author Work

Category	Subcategory	Frequency
E-Wallet Usage	ShopeePay	95
	GoPay	151
	Dana	66
	OVO	81
	Others	16
Age Group	17 – 24 years	155
	25 – 32 years	100
	33 – 40 years	26
	Over 40 years	128
Gender	Male	184
	Female	225
Last Education Level	High School (or equivalent)	104
	Diploma	18
	Bachelor's Degree	124
	Postgraduate	161
	Others	2
Occupation	Student	172
	Private Employee	74
	Government Employee	93
	Entrepreneur	28
	Educator	18
	Housewife	11
	Others	13
Monthly Income / Allowance	< Rp1,000,000	69
	Rp1,000,001 – Rp2,000,000	55
	Rp2,000,001 – Rp3,000,000	43
	Rp3,000,001 – Rp4,000,000	44
	Rp4,000,001 – Rp5,000,000	36
	> Rp5,000,000	162
E-Wallet Usage Frequency	Rarely	20
	A few times per month	68

Category	Subcategory	Frequency
	Once a week	34
	A few times per week	174
	Daily	113

Data Analyses

To analyze this research, the recommended measurement models and structural models by Hair et al. (2019). The analysis of the measurement model included a convergent validity test (loading factor ≥ 0.70 ; AVE ≥ 0.50), internal reliability (Cronbach's Alpha (CA), rho_A, Composite Reliability (CR) ≥ 0.70), indicator multicollinearity (VIF < 5), and discriminant validity (Fornell-Larcker Criterion and HTMT ≤ 0.90). The structural model analysis included R² tests for predictive strength, F² for effect magnitude, Q² for predictive relevance, and model feasibility tests (SRMR ≤ 0.10 , d_ULS, d_G, Chi-Square, and NFI ≥ 0.90). Furthermore, testing of direct and indirect relationships between variables was carried out through the bootstrapping method.

Result

Reflective Validation

Reflective validity is used to assess the reliability and validity of constructs in measurement models. Outer loading indicates how strongly the indicator reflects the construct, with values above 0.70 considered adequate. VIF is used to detect multicollinearity, where a value below 5 indicates no problem. CA, rho_A, and R are used to measure internal consistency, with an ideal value above 0.70. Meanwhile, AVE is used to measure the validity of the convergence, with values above 0.50 indicating the construct has explained the variance of the indicator well. Table 2 is the result of reflective validity.

Table 2
Reflective Validation Analysis Result.

Source: Author Work on SmartPLS

Variables	Code	Loading	VIF	CA	rho_A	CR	AVE
Age		1	1	1	1	1	1
Gender		1	1	1	1	1	1
Experience		1	1	1	1	1	1
Behavioral Intention	BI-1	0.843	1.857	0.799	0.8	0.882	0.714
	BI-2	0.881	2.071				
	BI-3	0.81	1.504				
Effort Expectancy	EE-2	0.732	1.558	0.857	0.872	0.903	0.701
	EE-3	0.882	2.905				
	EE-4	0.892	3.022				
	EE-5	0.834	1.813				
Facilitating Conditions	FC-1	0.906	1.847	0.825	0.93	0.89	0.731
	FC-2	0.879	2.362				
	FC-3	0.776	1.765				
Habit	HA-1	0.757	1.241	0.773	0.771	0.869	0.69
	HA-2	0.878	2.706				
	HA-3	0.852	2.569				
Hedonic Motivation	HM-1	0.707	1.924	0.877	0.892	0.903	0.571
	HM-2	0.781	2.286				
	HM-3	0.795	2.142				
	HM-4	0.781	2.576				
	HM-5	0.732	4.817				
	HM-6	0.744	4.122				
	HM-7	0.747	1.872				
Performance Expectancy	PE-2	0.812	1.684	0.819	0.837	0.879	0.646
	PE-3	0.872	2.148				
	PE-4	0.768	1.718				
	PE-5	0.759	1.647				
Price Value	PV-1	0.771	1.654	0.857	0.866	0.904	0.702
	PV-2	0.847	2.115				

Variables	Code	Loading	VIF	CA	rho_A	CR	AVE
	PV-3	0.904	2.849				
	PV-4	0.822	2.014				
Social Influence	SI-1	0.81	2.149	0.854	0.863	0.901	0.696
	SI-2	0.873	2.921				
	SI-3	0.867	2.543				
	SI-4	0.782	1.636				

Formative Validation

Formative validity is used to assess the contribution of each indicator to the construct as a whole. The values of R Square and R Square Adjusted indicate how much variance the endogenous construct describes by the exogenous construct. Q^2 measures the predictive relevance of the model, with a value above 0 indicating that the model has good predictive capabilities. Meanwhile, Effect size (f^2) was used to evaluate the strength of the influence of exogenous constructs on endogenous constructs, where values of 0.02, 0.15, and 0.35 indicated small, medium, and large influences, respectively. Table 3 is the result of formative validity.

Table 3
Formative Validation Analysis Result.

Source: Author Work on SmartPLS

Behavioral Intention	SSO	SSE	R Square	R Square Adjusted	Q^2	Effect size F^2
	1227	828.342	0.469827	0.456506	0.325	
Age	409	409				0.000599
Gender	409	409				0.000441
Experience	409	409				0.000148
Effort Expectancy	1636	1636				0.000854
Facilitating Conditions	1227	1227				0.021898
Habit	1227	1227				0.003752
Hedonic Motivation	2863	2863				0.182822
Performance Expectancy	1636	1636				0.021926
Price Value	1636	1636				0.006611
Social Influence	1636	1636				0.005515
Moderating Effect	409	409				

Discriminant Validation

Discriminant validity measures the extent to which the constructs in the model are completely different from each other. The test was conducted using two main approaches: the Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT). In Fornell-Larcker, the root value of AVE of each construct must be higher than the correlation between the other constructs. Meanwhile, in HTMT, a value below 0.90 indicates adequate discrimination between constructs. Table 4 is the result of discriminant validity.

Table 4
Discriminant Validation Result.

Source: Author Work on SmartPLS

Fornell-Larcker Criterion	1	2	3	4	5	6	7	8	9	10	11
Age	1										
Behavioral Intention	-0.031	0.845									
Effort Expectancy	-0.104	0.307	0.838								
Experience	-0.009	0.172	0.192	1							
Facilitating Conditions	0.121	0.399	0.516	0.173	0.855						
Gender	-0.12	0.079	0.033	0.068	0.095	1					
Habit	-0.006	0.527	0.267	0.265	0.381	0.159	0.831				
Hedonic Motivation	-0.132	0.639	0.27	0.205	0.331	0.096	0.726	0.756			
Performance Expectancy	0.07	0.373	0.499	0.111	0.481	0.095	0.279	0.298	0.804		
Price Value	0.013	0.379	0.348	0.151	0.415	0.008	0.484	0.575	0.238	0.838	
Social Influence	-0.105	0.325	0.157	0.114	0.191	0.147	0.399	0.46	0.031	0.439	0.834
Heterotrait-Monotrait Ratio	1	2	3	4	5	6	7	8	9	10	11
Age											
Behavioral Intention	0.035										
Effort Expectancy	0.11	0.364									
Experience	0.009	0.193	0.208								
Facilitating Conditions	0.138	0.458	0.636	0.172							
Gender	0.12	0.088	0.057	0.068	0.098						
Habit	0.053	0.665	0.317	0.294	0.398	0.178					
Hedonic Motivation	0.141	0.731	0.294	0.212	0.343	0.099	0.884				
Performance Expectancy	0.076	0.45	0.623	0.122	0.592	0.127	0.337	0.32			
Price Value	0.021	0.455	0.409	0.164	0.471	0.025	0.574	0.654	0.284		

Fornell-Larcker Criterion	1	2	3	4	5	6	7	8	9	10	11
Social Influence	0.116	0.388	0.18	0.123	0.2	0.159	0.488	0.545	0.117	0.509	

Direct Result

Direct analysis examined the relationship between the UTAUT2 constructs, demographic variables, and Behavioral Intention. Beta coefficients, T-values, and P-values were used to determine the significance of each relationship. The results show that Facilitating Conditions, Hedonic Motivation, and Performance Expectancy have significant positive effects on Behavioral Intention. Facilitating Conditions has a positive effect on Behavioral Intention ($\beta = 0.136$, $T = 2.562$, $P = 0.010$), Hedonic Motivation has a positive effect ($\beta = 0.607$, $T = 9.610$, $P < 0.001$), and Performance Expectancy has a positive effect ($\beta = 0.127$, $T = 2.159$, $P = 0.031$). The remaining direct relationships are not statistically significant. Table 5 presents the results of the direct hypothesis testing.

Table 5
Direct Hypothesis Result.

Source: Author Work on SmartPLS

Hypothesis	Beta	Mean	STDEV	T Values	P Values
Age → Behavioral Intention	0.037	0.039	0.039	0.959	0.338
Effort Expectancy → Behavioral Intention	0.058	0.063	0.046	1.27	0.204
Experience → Behavioral Intention	-0.001	-0.002	0.039	0.019	0.985
Facilitating Conditions → Behavioral Intention	0.136	0.136	0.053	2.562	0.01
Gender → Behavioral Intention	-0.003	-0.004	0.038	0.089	0.929
Habit → Behavioral Intention	-0.005	0.001	0.055	0.093	0.926
Hedonic Motivation → Behavioral Intention	0.607	0.602	0.063	9.61	0
Performance Expectancy → Behavioral Intention	0.127	0.123	0.059	2.159	0.031
Price Value → Behavioral Intention	-0.082	-0.08	0.051	1.609	0.108
Social Influence → Behavioral Intention	0.036	0.042	0.052	0.696	0.486

Moderation Result

The moderation analysis examined whether Age, Gender, and Experience moderate the relationships between UTAUT2 constructs and Behavioral Intention. The results show that Age significantly moderates the relationships between Habit and Behavioral Intention ($\beta = -0.167$, $T = 2.782$, $P = 0.005$) and between Hedonic Motivation and Behavioral Intention ($\beta = 0.218$, $T = 3.465$, $P = 0.001$). No significant moderating effects were found for the other interaction terms.

Table 6
Moderation Hypothesis Result.

Source: Author Work on SmartPLS

Hypothesis	Beta	Mean	STDEV	T Values	P Values
Age × EE → BI	0.024	0.021	0.045	0.524	0.601
Age × FC → BI	0.019	0.018	0.053	0.352	0.725
Age × HA → BI	-0.167	-0.156	0.06	2.782	0.005
Age × HM → BI	0.218	0.209	0.063	3.465	0.001
Age × PE → BI	0.005	0.003	0.06	0.092	0.927
Age × PV → BI	-0.022	-0.018	0.065	0.336	0.737
Age × SI → BI	-0.078	-0.081	0.057	1.367	0.172
Gender × EE → BI	0.023	0.02	0.044	0.527	0.599
Gender × FC → BI	0.022	0.025	0.056	0.388	0.698
Gender × HA → BI	-0.084	-0.083	0.06	1.417	0.157
Gender × HM → BI	0.083	0.083	0.064	1.283	0.2
Gender × PE → BI	-0.081	-0.083	0.063	1.293	0.196
Gender × PV → BI	0.034	0.034	0.052	0.643	0.52
Gender × SI → BI	-0.026	-0.032	0.05	0.507	0.612
Experience × EE → BI	0.025	0.025	0.046	0.543	0.587
Experience × FC → BI	-0.002	-0.003	0.049	0.048	0.962
Experience × HA → BI	-0.054	-0.047	0.067	0.804	0.421
Experience × HM → BI	0.05	0.048	0.072	0.699	0.485
Experience × PE → BI	-0.024	-0.025	0.057	0.424	0.672
Experience × PV → BI	0.021	0.018	0.06	0.345	0.73
Experience × SI → BI	-0.022	-0.019	0.052	0.422	0.673

Discussion and Conclusion

The results of this research offer a few insights regarding how that the UTAUT2 framework describes the behavioral desire to utilize electronic wallet applications. In general, the findings of the investigation indicate that not all UTAUT2 variables exhibit a significant association with behavioral intention. It was discovered that certain variables, such as social influence, effort expectancy, price value, and habit, did not have any statistically significant effects; however, other predictors did reveal significant effects. It appears from this that the decision to accept and utilize electronic wallets is not uniformly influenced by all of the dimensions of UTAUT2, but rather by particular elements that hold greater value in determining the perceptions and motivations of users. Davis et al. (1989) argue that the perception of usability of a system will increase if the system is easy to understand and does not require a lot of

effort to use. In line with this, Martinez & McAndrews, (2023) and Alduais & Al-Smadi, (2022) found that ease of navigation and a simple user experience reinforce the perception of technological performance.

According to the findings of the direct impact analysis, there were three constructs that shown a substantial influence on behavioral intention. These constructions were hedonic motivation, performance expectancy, and enabling conditions. Hedonic motivation ($\beta = 0.607$, $T = 9.610$, $P < 0.001$), emerged as the most powerful predictor among these factors. This indicates that users are highly motivated by the fun and satisfaction they derive from using electronic wallets. Previous research, such as by Bajunaied et al. (2023) and Amnas et al., (2023) confirms that younger generations tend to have a higher sensitivity to pleasurable digital experiences. In Bandung, this group dominates the use of digital financial technology. They are not only looking for efficiency, but also entertainment value such as gamification, visual notifications, and an exciting user experience (Çera et al., 2022). Thus, hedonic motivation plays a central role in building user loyalty to the app.

In addition, the presence of facilitating conditions ($\beta = 0.136$, $T = 2.562$, $P = 0.010$), was found to play a role, highlighting the need of having sufficient resources and assistance in order to facilitate adoption. Previous studies have shown similar results. Alalwan et al. (2016) and Calzada & Pablo (2026) emphasized that the successful adoption of digital services such as mobile banking is influenced by the availability of supporting infrastructure, such as smartphones with adequate specifications, 4G or 5G network services, and secure applications. This support makes users feel that they don't have to worry about facing technical obstacles when transacting. Factors such as fast system updates, lightweight applications, and ease of integration with other services are important components that strengthen user intent.

According to the findings of performance expectancy ($\beta = 0.127$, $T = 2.159$, $P = 0.031$), it was observed that the perception of the usefulness of an electronic wallet by users has a favorable impact on their intention to use the program. Previous research such as those conducted by Shaikh et al., (2018), Fedorko et al., (2021), Edu, (2024) and Herzallah et al., (2025) shows that performance expectancy has a significant influence on behavioral intention in various digital financial technology contexts. Tomić et al., (2023), Kardoyo et al., (2023) and Islam et al., (2024) also emphasize that the functional benefits of technology, such as ease and speed, are the main driving factors for the adoption of digital-based financial services. These findings support the relevance of research results where users assess performance aspects as the main basis for decision-making (Izzah et al., 2022). Meanwhile, research by Esawe, (2022) and Mensah & Khan, (2024) confirms that users of digital financial services will be more interested if they believe that the technology makes their financial activities easier. This shows that the perception of real benefits such as time and cost efficiency plays a direct role in the formation of behavioral intentions towards e-wallets (Esawe, 2022; Jung et al., 2020).

In addition, the moderation analysis sheds light on the complex role that demographic characteristic, and age in particular, play in determining the extent to which UTAUT2 components have an impact. It was revealed that there were significant moderating effects for the relationship between age and habit ($\beta = -0.167$, $T = 2.782$, $P = 0.005$) and age and hedonic motivation ($\beta = 0.218$, $T = 3.465$, $P = 0.001$). The conclusion that can be drawn from this is that the influence of habitual behavior on behavioral intention decreases with age. Compared to conventional methods which are more time-consuming, digital services such as e-wallets are seen as more practical and productive (Alalwan et al., 2017; Amnas et al., 2023; Bajunaied et al., 2023). This finding is in accordance with the literature as explained by Bajunaied et al., (2023) and Amnas et al., (2023) that in the use of consumer applications, hedonistic motivation is often a dominant factor, especially among the younger generation. Features such as cashback, attractive UI design, gamification, and attractive promotions can increase user enjoyment and drive higher usage intent. These findings are also reinforced by research by Batucan et al., (2022) and Yang et al., (2021) which states that hedonic motivation

can provide emotional satisfaction that motivates continuous use. The use of e-wallets is not only functional but also creates a pleasant experience, such as cashback, rewards, and attractive visual displays, in the city of Bandung.

Davis (1989) also stated that an easy-to-use application will increase the perception of its usefulness. Idrees & Ullah, (2024) added that the simpler the technology system, the greater the chance for users to adopt it because they feel that the system is efficient and uncomplicated. This suggests that older users are less likely to rely on regular patterns when making decisions regarding the use of electronic wallets. On the other hand, the influence of hedonic drive becomes higher with age, which suggests that older people may place a greater focus on enjoyment and fulfillment when making decisions on adoption. On the other hand, neither gender nor experience were shown to have any significant moderating effects, which indicates that these factors do not significantly modify the links between the UTAUT2 components and behavioral intention. These findings provide further evidence that the adoption of electronic wallets is driven primarily by the practical utility and experiential value of the technology.

Theoretical Implications

This investigation enhances the validity of the UTAUT2 model concerning e-wallet utilization in Indonesia, particularly in urban locales like Bandung. The findings indicated that Performance Expectancy, Facilitating Conditions, and Hedonic Motivation had a substantial impact on Behavioral Intention. These results corroborate prior hypotheses identifying usability, infrastructure support, and enjoyment as primary motivators for the adoption of digital financial technology, while also enhancing comprehension of the role of emotional elements in influencing user behavioral intentions. Furthermore, the moderation analysis introduced an additional aspect to the UTAUT2 model, revealing that age moderated the effects of Hedonic Motivation and Habit on Behavioral Intention. The results indicate that the younger demographic is more susceptible to the enjoyable features and digital practices associated with e-wallet usage. These theoretical implications underscore the necessity of incorporating demographic factors into technological behavioral models, thereby facilitating the advancement of UTAUT2 specific to specific age cohorts.

Practical Implications

In practical terms, the findings of this study offer strategic direction for e-wallet service providers to concentrate on enhancing elements that elevate performance expectancy, including transaction speed, system reliability, and security. Also, service providers need to make sure that the conditions for facilitating are as good as possible by providing an interface that is easy to use, technical assistance that is quick to respond, and seamless connection with other services. These things have been shown to make users feel more comfortable and trust the app more. The fact that hedonic motivation has the strongest effect also means that user experience should not be ignored. Adding features like cashback, eye-catching displays, gamification, and making the transaction experience more personal can make users much more loyal, especially young people. Fintech companies need to change how they create and market their products based on who their users are, especially when trying to reach groups that are more sensitive to digital pleasure and entertainment.

Limitations and Future Research Directions

There are a few problems with this research. First, the sample is limited to the Bandung City area, thus it is important to be careful when trying to apply the results to other regions or the whole country. Second, the study concentrated exclusively on the UTAUT2 variable, neglecting other external factors such as the impact of local culture, digital literacy levels, or attitudes toward data protection, which may also influence behavioral intentions for e-wallets. It is suggested that subsequent study broaden its geographical scope to encompass diverse cities in Indonesia exhibiting varying socioeconomic attributes. Researchers may also incorporate qualitative methodologies to investigate the emotional and psychological motivations of consumers more comprehensively. Longitudinal

experiments can also be done to evaluate how e-wallet users' behavior changes over time and how the factors that have been found affect them in the long run.

Declarations

Funding Declaration

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Data Availability

The cleaned dataset and supporting materials underlying the findings of this study are available for peer review. The supporting materials include the SmartPLS Algorithm and Bootstrapping outputs used in the analysis. The measurement instrument, variable definitions, indicators, and Likert-scale information are provided in the manuscript and its Appendix.

Ethical Approval

The research proposal, survey instrument, and research model were reviewed and approved through the academic research approval process at the Faculty of Social and Political Sciences, Universitas Padjadjaran, following evaluation by the examination committee, under approval/reference number 15950/UN6.G/PK.03.09/2022. The study was conducted in accordance with the applicable research and ethical guidelines.

Informed Consent

Informed consent was obtained from all participants prior to their participation in the study. Participation was voluntary, and responses were collected anonymously through the online questionnaire. The data were used solely for research purposes.

Consent to Publish

Not applicable.

Conflict of Interest

The author declares no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

Author Contribution

FZ wrote the main manuscript text, MBA, AB and PWT project administration, supervision, review and editing

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Figures

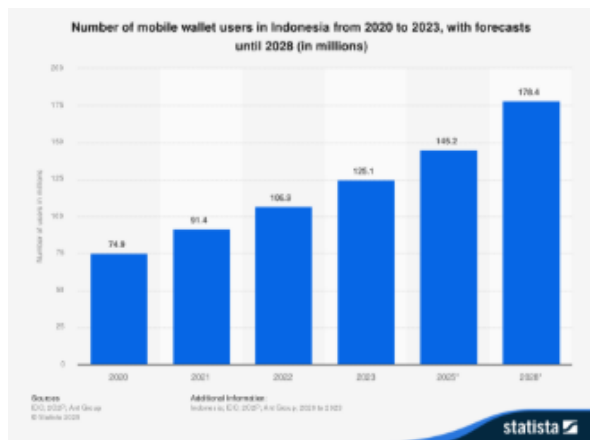


Figure 1

Mobile wallet or e-wallet forecast (2020 until 2028). Source: Statista.com

Supplementary Files

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